The Coppermine Country

By

J. B. TYRRELL, M.A., F.G.S., F.R.S.C.

(Annual Meeting, Toronto, March, 1912)

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The Coppermine country is situated about the centre of the northern coast of North America, just south of the Arctic Ocean, the shores of which are low, shallow and covered with ice for most of the summer.

Whaling ships now regularly navigate the Arctic Ocean from Behring Strait as far eastward as the mouth of the Mackenzie River, but from this point eastward navigation becomes more difficult and more impeded with ice, so that it has rarely been possible for such vessels to reach the mouth of the Coppermine River.

The country here considered is of unknown area, but speaking generally, it lies near the mouth of the Coppermine River and would appear to extend one hundred miles or more westward from it along the Arctic Coast and about two hundred miles eastward from it. Taking its centre as a point on the Coppermine River, about thirty miles above its mouth, this centre lies nine hundred miles northwest of Fort Churchill, on Hudson Bay, five hundred and fifty miles west-northwest from the head of Chesterfield Inlet on Hudson Bay, three hundred miles north of Fort Rae on the north arm of Great Slave Lake, and fifty miles east of Great Bear Lake.

At the present time the easiest method of reaching it is to descend the Mackenzie and Athabasca Rivers from Athabasca Landing to the mouth of Great Bear Lake River, to ascend this river to Great Bear Lake, cross Great Bear Lake, and thence to strike across the country eastward from Great Bear Lake to the Coppermine; but the main difficulty in this route is caused by the fact that Great Bear Lake, which is very large, having an area of 11,800 square miles, is only open throughout its whole extent for about two months of each year, from the first of August to the first of October.

A canoe route leads north from Great Slave Lake (area 10,700 square miles) to the east end of Great Bear Lake, and thence to the Coppermine River. It is available for a little longer time than the other, in fact from the time when Great Slave Lake opens on the first of July until it freezes again on the first of November.

A party travelling through, or stopping in, that country can add largely to its supply of provisions by catching the fish which are so abundant in the rivers and lakes, and by shooting the caribou which roam in vast herds over the open plains; but it is never safe to depend on these sources of supply, for both may fail at critical times, or if they do not entirely fail they may become so scanty as to tax the strength and energy of the party in order to obtain sufficient food to support existence, while that very strength and energy should be devoted to prospecting and exploration. It would, therefore, be advisable for any party entering the country to take with it provisions sufficient to supply at least two-thirds of the normal rations, chiefly in the form of cereals, sugar and fat, while the region itself might be depended on to supply a fair quantity of lean meat.

The Coppermine River itself, which flows through the middle of the Coppermine country, is a stream from four to five hundred miles long. It rises somewhere to the east or northeast of Point Lake (Indian—"*Ekka tua*"), and flows from that lake northward to north latitude 67° 48′, where it empties into Coronation Gulf, one of the great bays of the Arctic Ocean, five hundred miles east of the mouth of the Mackenzie River. The stream is swift, but rather shallow, and is broken by numerous rapids, though most of these can be descended in canoes under the guidance of good canoemen. The ice on it breaks up annually about the first of June and does not form again until about the first of October. Its Indian name is *Tzan dézé*, meaning Metal River.

The Coppermine country lies within what are known as the Barren Grounds, or, to use the proper translation of the Indian name, the Treeless Region, where all the uplands are devoid of trees and almost devoid of shrubs, and bear but a stunted growth of grasses, sedges, and low Arctic annuals. Near the head of the river some trees, chiefly spruce, tamarac and poplar, grow around the shores of Point Lake, and groves of smaller trees extend northward along its banks to within twenty miles of its mouth.

For more than two hundred years native copper has been known to exist on the banks of the Coppermine River, and over large areas in its vicinity. Writing about 1714, M. Jeremie, who had been in charge of York Factory or Fort Bourbon, then the most northerly trading post on the west side of Hudson Bay, between 1708 and 1714, while it was in the hands of the French, says of the Dogribbed Indians: "They have in their country a mine of red copper so abundant and so pure that without putting it through the forge, just as they obtain it at the mine, they pound it between two stones and make anything that they wish with it. I have often seen it, since our Indians constantly bring it from there when they go in war parties."

Thus the French traders, who travelled so far through the northern country and have told us so much about it, were the first to give us information about this region which still seems so remote and difficult of access.*

After York Factory and the other trading posts on Hudson Bay were handed back by the French to the English and to the Hudson's Bay Company, those in control of this latter company immediately began to look for the great mine of copper from which the Esquimaux and Indians derived their supply of the metal, and as early as July, 1717, they sent out Richard Norton, a boy about seventeen years of age, who had shown a great aptitude for learning the Chippewyan Indian language, with two of these Indians. No account of Norton's journey has ever been published, but from the remarks of Captain Middleton and

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*In 1631, Luke Fox, when travelling along the west shore of Hudson Bay about north latitude 63°, opened some Esquimo graves and found "darts" with iron and *copper* heads, the latter having doubtless been obtained from the deposits of native copper on the north coast of America. *The Voyages of Captain Luke Fox and Captain Thomas James*, Hakluyt Society, London, 1894, p. 320.

Arthur Dobbs, it would appear that he spent about a year travelling with the Indians, and there is a possibility that he went as far north as the Coppermine River itself. At all events, judging from the reports brought back by him and from the reports of the Northern Indians, Captain Christopher Middleton, F.R.S., writing in 1743, makes the following remarks:—

"All the Indians I have ever conversed with, who were at the Copper-mine, agree in this; That they were two Summers going thither, pointing towards the north-west and Sun-setting, when at Churchill; and that where this Mine is, the Sun, at a certain Season of the Year, keeps running round the Horizon several times together, without setting. Now we know from the Principles of Cosmography, that this cannot be true of any place, whose latitude is less than 67 or 68 Degrees, even allowing for the Effects of Refraction: And if the Credibility of the Testimony of these simple Indians be called in question, I can mention that of Mr. Norton, who was Governor at Churchill above twenty years, and had travelled almost a Year northwestward by Land with this Country Indians. This Gentleman has often affirmed the same thing of the Sun; and that in his whole journey he met with no Salt River, nor Tree, nor Shrub, but only Moss: and that he and his Retinue were reduced to such Extremity as to eat Moss several days; having nothing else that could serve them for Substenance but their Leather Breeches, which they eat up also. Now it will appear, from a just trigonometrical Computation, that Churchill being in Latitude 59°, and the Mine in Latitude 67°, and the Bearing N. W. the difference of Longitude between Churchill and the Mine is 17° 45′ (actually 11° 30′). But Wager River's Entrance being in Latitude 65° 20′, and 10 Degrees of Longitude east of Churchill, the Difference of Longitude between the Mouth of the River and the Mine is 27° 45′, and their Distance in the Arch of a great Circle, or their nearest Distance, no less than 700 Miles. (Actual distance, 900 miles.) From what I have here made out concerning this Mine, and the way to it, upon the Report of the Indians and of Governor Norton, it follows, even to Demonstration.

"1st. That neither Wager River, nor any other River or Sea, does extend so far westward, from any Part of Hudson's Bay in less than Latitude 65°. as to cross the Rout that lies between Wager River and the Mine. And,

"2dly, That if there be any Passage at all, it must run up so high northward, as to cross the Parallel of 67° on the East Side the Mine, and consequently must be frozen up, and absolutely unnavigable the whole Year."*

A brief reference to the map of Canada will indicate how nearly correct Captain Middleton was able to judge of the position of the Coppermine country. At the same time it is difficult to avoid the conclusion that Richard Norton, his informant, had either visited the country himself or had gained a very just idea of its position through his intimate knowledge of the Indian language and character.

In 1719 the directors of the Hudson's Bay Company ordered Mr. Norton, upon application of his mother on his behalf, a gratuity of £15 on account of having "endured great hardships in travelling with the Indians,"† doubtless on this journey to or towards the Coppermine country. With reference to this journey a Captain Caruthers, who was in the employ of the Hudson Bay Company, states in the Parliamentary Report of 1749, that he "himself carried Mr. Norton, who was afterwards Governor, and two Northern Indians, to Churchill, where he put them in a canc ; and the purpose of their voyage was to make discoveries, and encourage the Indians to come out to trade, and bring Copper Ore."‡

In the same Parliamentary Report, Alexander Brown, a surgeon who had been for six years in the Company's service, testified that the Indians "brought down the ore at the request of Governor Norton," and also "that he had heard the late

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*A vindication of the Conduct of Captain Christopher Middleton in a late voyage on board His Majesty's Ship Furnace, by Capt. C. Middleton, London, 1743, p. 41.

†Report from the Committee Appointed to inquire into the state and condition of the Countries adjoining to Hudson's Bay, London Govt. 1749, p. 276.

‡Report from the Committee, 1749, p. 231.

Mr. Norton say that he had been at this Mine, and that a considerable quantity of Copper might be brought down."[*]

During the same time Captain Knight, who had been in charge of a number of the Company's posts on Hudson Bay, and who was himself the founder of Churchill, had also seen some of this copper ore and had become greatly interested in it, though there is also reason to suppose that he considered that it was associated with gold, or that gold occurred in the country. Arthur Dobbs says of him, that he had a great share in the Company's stock and that he pressed the Company to go upon the discovery and trade and had strong chests made to hold the gold he was to bring home.

In the spring of 1719, Captain Knight and his associates sailed from England in two ships, named the "Albany" and the "Discovery." Unfortunately, the expedition was wrecked on Marble Island and all the officers and crew were lost, although their fate was not definitely known until the year 1767, when their remains were discovered by Mr. Joseph Stephens of the Hudson Bay Company, who was in charge of a small vessel called the "Success," engaged in the whale fishery.

The account of the finding of the remains of Captain Knight and his men is given in very pathetic terms by Samuel Hearne;[†] how they lived on the island for a couple of years and used to go up to the top of the rock looking for someone to come and rescue them, and how, at last, only two remained and of these two one fell down and died and the other died in attempting to bury him

After the unsuccessful and tragic voyage of Knight and Barlow no serious attempt was made to find the Coppermine country for some time, but the following references to it in Arthur Dobb's "Account of the Countries adjoining to Hudson's Bay," 1744, pp. 47, 48, 59 and 80, will show that it was not forgotten.

"Mr. Frost, who has been many Years employed by the Company in the Bay, both at Churchill and Moose River Factory, who was their Interpreter with the Natives, and travelled a considerable Way into the Country, both North-Westward of Churchill,——.

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[*] Report 1749, p. 226.

[†] Hearne's Journal, New Edition, Toronto, 1911; with introduction by J. B. Tyrrell, pp. 47-49.

"He says when he was at Churchill, he travelled a considerable Way in the Country North-Westward of the River of Seals; that near the Rivers and Sea-coast, there was small shrubby Woods, but for many Miles, at least 60 farther into the Country, they had nothing but a barren white Moss upon which the Rain-Deer feed, and also the Moose, Buffalos, and other Deer; and the Natives told him, farther Westward beyond that barren Country, there were large Woods. He was acquainted, when there about fifteen Years ago, with an Indian Chief, who traded at Churchill, who had been often at a fine Copper Mine, which they struck off from the Rocks with sharp Stones; he said it was upon Islands at the Mouth of a River, and lay to the Northward of that Country where they had no Night in Summer.

"The Company avoid all they can making Discoveries to Northward of Churchill,——.

"But tho' they are fully informed of a fine Copper Mine on a navigable Arm of the Sea North-westward of Whale Cove, and the Indians have offered to carry their Sloops to it, yet their Fear of discovering the Passage puts Bounds to their Avarice, and prevents their going to the Mine, which by all Accounts is very rich; yet those who have been at Whale Cove own, that from thence Northwards is all broken land, and that after passing some Islands, they from the Hills see the Sea open, leading to the Westward:——

"Churchill River, in Latitude 59°, a noble River, navigable for 150 Leagues, and after passing the Falls, navigable again to far distant Countries, abounding in Mines of Copper,——

"Scroggs, in his journey Northward in 1722 had two Northern Indians with him, who had wintered at Churchill, and told him of a rich Copper Mine somewhere in that Country, upon the Shore, near the surface of the Earth, and they could direct the Sloop so near it, as to lay her Side to it, and be soon loaden with it; they had brought some pieces of Copper from it to Churchill, that made it evident there was a Mine thereabouts."

About the same time an acrid discussion was carried on between Arthur Dobbs, and Captain Christopher Middleton, captain of the "Furnace," as to the honesty of the latter in endeavoring to find a North-West Passage in 1741-2, and while the main points in the discussion are of little interest, the disputants published four books which contain some useful information about Hudson's Bay and the adjoining country. The quotation from Captain Middleton, published on page .., is from one of these books. The following references to the Coppermine River also occur in them.

Edward Thompson, surgeon (of the "Furnace"), is quoted as stating:—

*"Likewise, the two Indians gave us an Account of a River or Straits, Salt-water and deep, a great Number of large black Fish, spouting up the Water, and that they were five Days in crossing it, and that there was a Copper Mine upon the Side of this River or Strait, and by the best Accounts I could gather from them, it was somewhere hereabouts, and when we left Brook Cobham, and sailed to the North-eastward, they told us, that that was not the Way to the Copper Mine, but were going from it."

And also:—

†"These two Indians left their Wives and Families, and came on board entirely to show us the Copper Mine before mentioned."

With regard to Richard Norton's journey, Arthur Dobbs makes the following statement:—

‡"For there are several Persons, now living, who know the exact Time of Norton's setting out upon his Travels, and the Time of his Return, who all agree, that Norton was a poor Boy, taken an Apprentice by the Hudson's Bay Company, and sent over to one of their Factories in Hudson's Bay. After he had served three Years of his Time, he became a tolerable Linguist for the Languages of those Nations that traded with the Hudson's Bay Company's Factors.—When Norton was about seven-

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*A Vindication, 1743, p. 186.

†Loc. cit., p. 189.

‡Remarks upon Middleton's Defence, by Arthur Dobbs, 1744, pp. 24-25.

teen Years of Age, a Factory was first begun to be settled near Churchill River, in order to enlarge the Company's Trade; and Norton was pitched upon, tho' a Youth, to go in quest of a Nation of Northern Indians (he speaking their Language), to acquaint them there was a Factory settled at Churchill, for promoting a Commerce between that Nation and the Company. Norton set out in his Canoe, with a Northern Indian, the Middle of July, 1717, and went no farther to the Northward than the Latitude of 60 Degrees. He there left his Canoe, and travelled in-land in quest of this Northern Nation, took a great Sweep to the Southward of the West, and found them returning to their Winter Quarters. He engaged some of those People to travel with him to Churchill, where they all arrived about Christmas the same Year, after having endur'd a great many Hardships.—How does this Relation, which is well known to be Matter of Fact, tally with Captain Middleton's Story of the Indians' and Norton's travelling by Land to 68°, their seeing the Sun running round the Horizon for several Days together, especially Norton, who must have inverted the Order of Nature, by seeing the Sun above the Horizon for several Days together in Winter-time, when in 68°."

In the same book Dobbs quotes Edward Thompson and John Wigate, the surgeon and clerk of the "Furnace," as follows:—

*"Whereas it hath been reported by Capt. Middleton, that Mr. Norton, late Governor of Churchill, travelled from Whale Cove, in the Latitude of 62° off to 65° odd inland, without Interruption of any Lakes, Rivers or Streights, and could perceive no such Thing as any Inlet or Opening to the South Sea, etc.

"To confute this, it has been several Times reported by the said Norton, that so far as he travelled he saw nothing but broken Lands and Islands from 60° to the Extent of his Journey; and that the native Indians he had then with him gave him a very good Account of a Copper Mine upon the Side or Bank of a large River or Streight; and that a Person might easily go with a Ship or Sloop, and ly close to the side thereof, and fill their Vessel with the aforesaid Metal at Pleasure.

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*Remarks, &c., pp. 146-7.

"Likewise the two Northern Indians that we took in at Churchill, the one named Nabiana, the other Iazana (tho' upon the Ship's Books they are call'd Clayhulla and Cloydiddy), gave me a particular and more affirmative Account than Mr. Norton's. They mark'd out upon my Table the Tract of Land or Confines of their Country, as far as they knew together with the Course of some remarkable fresh Water Rivers in their Country; but in particular they gave a very good and clear Account of a Copper Mine, which they generally used to go to once in two Years; and at this Copper Mine there is a large River or Streight, salt Water and strong Tides, Plenty of a large kind of black Fish, which by their description I imagine to be Whales; and that they were five days in crossing that salt Water in their Canoes; and that this River or Streight was so deep, that they could find no Bottom with a Deer Skin cut into very fine Thongs, and at least was an hundred Fathoms long; that the Course of this River run towards the Sun at Noonday, and this River appeared to me to be about the Latitude of 63°, or thereabouts; for they seemed, in our Voyage, to have more Knowledge of the Land near that Latitude than in any other Part of our Discovery; and when we sailed to the North-eastward of that Latitude, they told us we were going from the Copper Mine, and the River they spoke of.

"The Country these Nations inhabit in Summer, upon account of their killing Deer, they told me was all barren, high and rocky, and that they go inland in the winter to the Southward to catch Beaver and other Furrs. I had frequent Conference with these two Indians, who seemed to be well affected towards me, and were never better pleased than when I was writing a Vocabulary of their Language; by which I might be enabled to discourse with them more familiarly, and they were very eager of learning English.——

"Given under our Hands this 9th Day of April, 1743.

"EDWARD THOMPSON
"JOHN WIGATE."

Writing of Norton's trip northward, Captain Middleton again says:—

[*] "But this I averr, that he has very often told me, and not long since, that he went from the Factory in the Fall of the Year, which was sometime in August, and paddled along the Shore in a Canoe, with a Northern Indian man, and a Girl, for the Space of fourteen Days, before they quitted the Canoe; and travelled afterwards inland to the Northward of the West, about ten or twelve Days, and then met with the Northern Indians or some of them. Now could they be fourteen Days in paddling but twenty Leagues, from Churchill to Latitude of 60°, which is but one Degree? Twenty Miles a Day in a Canoe, is esteemed but easy Labour for him who paddles. Let us suppose they went but fifteen miles in twenty-four Hours, one Day with another; this gives two hundred and ten Miles in the Space of Time mentioned, which are 3° 30′, and makes the Latitude 62° 30′;——

"From all the Accounts I could get, and I have made the strictest Enquiry, the Northern Indian Nations live between the Latitude of 63° and 64°. The most particular Account I ever had, was after I came home from my last Voyage, and this was from the Indian Linguist, whom I had then with me, and at my Lodgings after my Return, till about Christmas, 1742, when he died. He had been several Winters and Summers among them, and said they were never less than three Weeks or 21 Nights, which is their way of reckoning, in coming to the Factory; but were much longer in going back (The Reason of this Difference of Time, is that in coming to the Factory, the Way is Frozen, but the Ice broken up when they return). As near as he could make it out, their Country lies in a strait Line with the Sun's setting in Summer (from Churchill) which must be about N.W. Now admit these Indians travelled but 20 Miles in 24 Hours, which to them is nothing when the Ground is frozen, this would make 421 Miles, and that Distance N.W. will give near 5° of Latitude, which added to that of Churchill, places these Northern Indians in Latitude 64° North; this agrees with all the Accounts I have heard, and with what Scroggs' Indian said. See his

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[*] A Reply to the Remarks of Arthur Dobbs, by Captain C. Middleton, London, 1744, p. 25.

Account in Whalebone Bay: from whence they desired him to let them return home, as then being not above three or four Days' Journey from their own Country.*

"I all along understood, and do yet believe, that Mr. Norton continued that Winter and one Summer with these Northern Indians, and returned the Winter following, after having travelled throughout their Country, to engage as many as possibly he could, to come down and trade: and if this was the Case, he might very well have observed the Sun's going round several Days together, and the imputed Blunder falls to the Ground."†

A few years later, in 1748, at the request of Arthur Dobbs and others a Parliamentary Investigation was held into the conduct of the Hudson's Bay Company, and the following references to the Coppermine country, in addition to those already cited, appear in the Report of the Committee and in the evidence submitted.

Edward Thompson, who had been three years at Moose River in the Company's service as surgeon, said:—

‡"That he has heard the Natives talk of a Sea to the Westward, which, by their Accounts, is not far distant; and of a Copper Mine, which lay on the side of a Streight which takes them five Days in crossing; that they describe the Water of this Streight to be very deep, and that they could not reach the Bottom with Two Deer-skins cut into Thongs: And if a Sloop could be brought along-side this Copper Mine, they say they could fill it in a little time. And, by their Account, this Streight has a Communication both with the Bay and the South Sea.

"The Witness could not learn at what Distance this was from the Factory, nor did he inquire which Way the Tide sat; but the Indians said, that the Water was deep and salt, and there were great Fish spouting up in it."

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*Vid. Mr. Dobb's Remarks, p. 115.

†A Reply to the Remarks of Arthur Dobbs, by Captain C. Middleton, London, 1744, p. 26.

‡Report from the Committee appointed to inquire into the State and Condition of the Countries adjoining to Hudson's Bay, London. Govt. 1749, p. 223.

"Christopher Bannister, who had been Armourer and Gunsmith to the Hudson's Bay Company, and had resided in the Bay about 22 years, informed your Committee:—

*"That he had seen Copper frequently brought down by the Northern Indians, a Piece of which he produced to your Committee; and said, He had seen great quantities of it there; and was informed by a young Man, who is now at Hudson's Bay, that the Indians told him, that it was brought from a Mine, in Search of which the young Man would gladly have gone."

†"Mr. Alexander Browne, who has been Six Years in the Company's Service at Hudson's Bay as Surgeon, informed your Committee, that he has seen both Copper and Copper Ore at Prince of Wales's Fort in Churchill River, which the Northern Indians informed the Witness they brought from an Isthmus of Land, which lies by a Lake at the farthest Extent of their Country: That tis hard to ascertain the Distance from the Accounts of the Indians, but that tis judged to be about Three or Four hundred Miles: That he never heard the Indians say whether there was a Passage to this Place from the Bay by Water, but they informed him their River ran by it.

"That they bring down the Copper for Ornaments; and that they brought down the Ore at the Request of Governor Norton: But that the Witness does not know whether any of it was sent to England, or whether any Trial was made of it there: That he has seen about Four or Five Pounds of it, both before it was smelted, and after; and he takes it to be a rich Ore, but does not understand Metals. That he has heard of Lead Ore at Hudson's Bay, but never saw any.

"That he never saw the Indians smelt it: but they informed him, that the Earth was washed from the Ore by Showers, and that they smelt it on a Fire till it runs, and then beat it, it being very malleable; That he never heard of a Copper Mine on the large Arm of the Sea, but the Ore is brought down by Canoes to the open Sea; and that the Rivulet which washes the

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*Report, &c., 1749, p. 225.

† Report 1749, p. 226.

said Copper is not known to have any Communication with Hudson's Bay, the Mine being about Fifteen Miles from the open Sea, by the Accounts of the Indians.

"That they might bring the Ore in their Canoes to Churchill River; But the Witness can't say whether the Company's Sloops could go within Fifteen or Sixteen Miles of the Mine, since there are frequent Shoals in those Seas; But Canoes may come down to meet the Vessels; for the Ice makes the Water so smooth, that a Canoe can live Thirty Leagues from Shore. That he apprehends the Indians come a little to the Northward of Whale Cove, which bear a Point or two to the West of the North from Churchill.

"That if the Indians were encouraged, they would bring great Quantities of Ore, as well as smelted Copper, to Whale-Cove; and that a Pound and a half of Ore would, in the Opinion of the Witness, produce a Pound of pure Metal. That if Persons were sent up to the Mine, they might smelt the Ore there; but they would labour under a difficulty for Want of Fuel, the Country producing no Wood; and what the Indians smelt, they do in small Quantities with Moss.

"That the Country about the Mine is only inhabited in the Fishing Season; and that he apprehends it produces Furs: And that he never heard the Company offer to trade with the Indians for Copper: That the Rivulet which runs by the Mine runs into the Sea; and that he apprehends there is a Communication betwixt this Sea and Whale Cove: That he has heard the late Mr. Norton (who was the first that brought the Northern Indians to trade, being sent among them for that Purpose by the then Governor) say, that he had been at this Mine, and that a considerable Quantity of Copper might be brought down: That the Indians will carry their Canoes, as the Witness believes, about Four or Five Miles over Land, but they often leave their Canoes and go within Land: That on Mr. Norton's being sent to the Northern Indians, a small Trade was carried on, which has been improved of late Years, but nothing to what it might be by giving the Encouragement of a greater Price: But Mr. Norton never told the Witness why the Copper Trade was not carried on."

*"Captain Carruthers, being examined, informed your Committee, that he had formerly been in the service of the Hudson's Bay Company, which he quitted thirty-five years ago.

"That he has heard a good deal of a Copper Mine to the Northward of Churchill River, the Indians speaking of it to the Interpreter while the Witness was by; but he understood no more than that it lay to the Northward of Churchill, and that the Governor was mighty fond of the Discovery, and made great Inquiries about it.

"That the Interpreter reported the Answers of the Indians to the Governor and Council, of which the Witness was one; and they described the Mine sometimes as a Gold Mine, sometimes as a Copper Mine; and that the Witness has seen Copper which was said to be brought from thence, but he does not know whether it was so or not; That the Governor was very earnest in this Discovery, which was always his Topic, and he took all Opportunities of making Presents to the Natives: And the Witness himself carried Mr. Norton, who was afterwards Governor, and Two Northern Indians, to Churchill, where he put them in a Canoe; and the Purpose of their Voyage was to make Discoveries, and encourage the Indians to come down to trade, and bring Copper Ore: That he can't recollect, that he ever heard how far it was to this Copper Mine; nor does he know whether there is an easy passage to it by Land, having never travelled by Land himself, nor heard of any Exepdition of that kind, except that undertaken by Norton and the Two Indians aforesaid."

In 1768 Richard Norton was dead, but his half-breed son, Moses Norton, had been appointed Governor of Fort Churchill in his place, and during that year some Indians brought in beautiful specimens of Copper from that fabled Copper country. Norton was so interested in these new specimens from a country of which he had already doubtless heard much from his father and others, that he took passage on the annual ship to England and laid before the Governors of the Company a project for what he believed to be the complete exploration of the country

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*Report 1749. p. 231.

and a definite settlement of the question of whether there was available Copper within reach of the shores of Hudson Bay or not. It is interesting to note that the same ship which took Governor Norton to England had brought out William Wales and Joseph Dymond to observe the transit of Venus at Churchill.

In the following year Mr. Norton returned from England with authority to send out one of his clerks named Samuel Hearne to explore the Coppermine country. The following is an extract from the instructions of the Company as given by Hearne himself*:—

"From the good opinion we entertain of you, and Mr. Norton's recommendation, we have agreed to raise your wages to £— per annum for two years, and have placed you in our Council at Prince of Wales's Fort."

"Mr. Norton has proposed an inland journey, far to the North of Churchill, to promote an extension of our trade, as well as for the discovery of a North West Passage, Copper Mines, &c.; and as an undertaking of this nature requires the attention of a person capable of taking an observation for determining the longitude and latitude, and also distances, and the course of rivers and their depths, we have fixed upon you (especially as it is represented to us to be your own inclination) to conduct this Journey, with proper assistants.

"We therefore hope you will second our expectations in readily performing this service, and upon your return we shall willingly make you any acknowledgment suitable to your trouble therein."

Hearne was then a young man 24 years of age, and as soon as possible after Norton's arrival home he made preparations for the journey inland. On the 6th of November he left Churchill, or rather Fort Prince of Wales, at the mouth of Churchill River, in company with a few Chippewyan Indians and started north-westward on foot for the Coppermine, but he only got a short distance when the Indians left him and he was obliged to return.

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*Hearne's Journey, New Edition. Toronto, 1911; with introduction &c., by J. B. Tyrrell, p. 50.

After a couple of months at home he again started out in the middle of winter and wandered over the Barren Grounds until the following autumn, when, being again abandoned by his Indians, he was obliged to return to his old home on Hudson Bay; but on the way home he had met an Indian Chief named Matonabbee, who offered to take him to the Coppermine River, and who afterwards showed that he was able to substantiate his offer by accomplishment; so, on the 7th of December, 1770, after having been home for only twelve days, he again started out on foot for the Coppermine River, and this time, thanks to the leadership of the great Indian whom he accompanied, he was able to reach the country that he was in search of.

Hearne knew nothing of mines or minerals, but, like many a man similarly equipped since his day, he was sent to report on a great mining property. Naturally, his report on the mine of copper is of little value, but in his book he has given an exceedingly interesting account of life among the Indians on the Barren Grounds in his time. What he has to say, however, is interesting, as it is the first account of the occurrence of the copper by an eye witness. His remarks are as follows*:—

"We arrived at one of the copper mines, which lies, from the river's mouth about South South East, distant about twenty-nine or thirty miles.

"This mine, if it deserves that appellation, is no more than an entire jumble or rocks and gravel, which has been rent many ways by an earthquake. Through these ruins there runs a small river; but no part of it, at the time I was there, was more than knee-deep.

"The Indians who were the occasion of my undertaking this journey represented this mine to be so rich and valuable, that if a factory were built at the river, a ship might be ballasted with the oar, instead of stone; and that with the same ease and dispatch as is done with stones at Churchill River. By their account the hills were entirely composed of that metal, all in handy lumps, like a heap of pebbles. But their account differed so much from the truth, that I and almost all my companions expended near four hours in search of some of this metal, with such poor success, that among us all, only one piece of any size could be found. This, however, was remarkably good, and weighed above four pounds. I believe the copper has formerly been in much greater plenty; for in many places, both on the surface and in the cavities and crevices of the rocks, the stones are much tinged with verdigrise.

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*Ref., p. 24.

"It may not be unworthy the notice of the curious, or undeserving a place in my Journal, to remark, that the Indians imagine that every bit of copper they find resembles some object in nature; but by what I saw of the large piece, and some smaller ones which were found by my companions, it requires a great share of invention to make this out. I found that different people had different ideas on the subject, for the large piece of copper above mentioned had not been found long before it had twenty different names. One saying that it resembled this animal, and another that it represented a particular part of another; at last it was generally allowed to resemble an Alpine hare couchant; for my part, I must confess that I could not see it had the least resemblance to anything to which they compared it. It would be endless to enumerate the different parts of a deer, and other animals, which the Indians say the best pieces of copper resemble: It may therefore be sufficient to say, that the larger pieces, with the fewest branches and the least dross, are the best for their use; as by the help of fire, and two stones, they can beat it out to any shape they wish.

"Before Churchill River was settled by the Hudson's Bay Company, which was not more than fifty years previous to this journey being undertaken, the Northern Indians had no other metal but copper among them, except a small quantity of iron-work, which a party of them who visited York Fort about the year one thousand seven hundred and thirteen, or one thousand seven hundred and fourteen, purchased; and a few pieces of old iron found at Churchill River, which had undoubtedly been left there by Captain Monk. This being the case, numbers of them from all quarters used every Summer to resort to these hills in search of copper, of which they made hatchets, ice-chissels, bayonets, knives, awls, arrow-heads, etc. The many paths that had been beaten by the Indians on these occasions, and which are yet, in many places, very perfect, especially on the dry ridges and hills, is surprising; in the valleys and marshy grounds, however, they are mostly grown over with herbage, so as not to be discerned.

"The Copper Indians set a great value on their native metal even to this day; and prefer it to iron, for almost every use except that of a hatchet, a knife, and an awl; for these three necessary implements, copper makes but a very poor substitute. When they exchange copper for iron-work with our trading Northern Indians, which is but seldom, the standard is an ice-chissel of copper for an ice-chissel of iron, or an ice-chissel and a few arrow-heads of copper for a half-worn hatchet; but when they barter furs with our Indians the established rule is to give ten times the price for everything they purchase that is given for them at the Company's Factory."

After Hearne's visit in 1771 no white man visited the country for 50 years, until Sir John Franklin arrived at the head waters of the river, and then descended and made a survey of it from Point Lake to the Arctic Ocean. Franklin's account of the country is interesting. He states:

[*]"We rejoined our hunters at the foot of the Copper Mountains, and found they had killed three musk-oxen. This circumstance determined us on encamping to dry the meat, as there was wood at the spot. We availed ourselves of this delay to visit the Copper Mountains in search of specimens of the ore, agreeably to my instructions; and a party of twenty-one persons, consisting of the officers, some of the voyagers, and all the Indians, set off on that excursion. We travelled for nine hours over a considerable space of ground, but found only a few small pieces of native copper. The range we ascended was on the west side of the river, extending W.N.W. and E.S.E. The mountains varied in height from twelve to fifteen hundred feet. The uniformity of the mountains is interrupted by narrow valleys, traversed by small streams. The best specimens of metal we procured were

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[*] A Journey from Prince of Wales Fort on Hudson's Bay to the Northern Ocean. By Samuel Hearne, New Edition. Toronto, 1911, with Introduction and notes by J. B. Tyrrell, pp. 194-199.

among the stones in these valleys, and it was in such situations that our guides desired us to search most carefully. It would appears, that when the Indians see any sparry substance projecting above the surface, they dig there; but they have no other rule to direct them, and have never found the metal in its original repository. Our guides reported that they found copper in large pieces in every part of this range, for two days' walk to the north-west, and that the Esquimaux come hither to search for it. The annual visits which the Copper Indians were accustomed to make to these mountains, when most of their weapons and utensils were made of copper, have been discontinued since they have been enabled to obtain a supply of ice-chissels and other instruments of iron by the establishment of trading posts near their hunting grounds. That none of those who accompanied us had visited them for many years was evident, from their ignorance of the spots most abundant in metal.

"The impracticability of navigating the river upwards from the sea, and the want of wood for forming an establishment, would prove insuperable objections to rendering the collection of copper at this part worthy of mercantile speculation."*

Among the members of Franklin's party was Sir John Richardson, the great naturalist, and his account of it is much more detailed than that given by his chief and is here appended:

"The Copper Mountains appear to form a range running S.E. and N.W. The great mass of rock in the mountains seems to consist of felspar in various conditions; sometimes in the form of felspar rock or claystone, sometimes coloured by hornblende, and approaching to greenstone, but most generally in the form of dark reddish-brown amygdaloid. The amygdaloidal masses, contained in the amygdaloid, are either entirely pistacite (Epidote), or pistacite enclosing calc-spar. Scales of native copper are very generally disseminated through this rock, through a species of trap tuff which nearyl resembled it, and also through a reddish sandstone on which it appears to rest When the felspar assumed the appearance of a slaty claystone, which it did towards the base of the mountains on the banks of the river, we observed no copper in it. The rough and in general rounded and more elevated parts of the mountain, are composed of the amygaloid; but between the eminences there occur many narrow and deep valleys, which are bounded by perpendicular mural precipices of greenstone. It is in these valleys, amongst the loose soil, that the Indians search for copper. Amongst the specimens we picked up in these valleys, were plates of native copper; masses of pistacite containing native copper; of trap rock with associated native copper, green malachite, copper glance or variegated copper ore and iron-shot copper green; and of greenish grey prehnite in trap (the trap is felspar, deeply coloured with hornblende), with disseminated native copper; the copper, in some specimens, was crystallized in rhomboidal dodecahedrons. We also found some large tabular fragments, evidently portions of a vein consisting of prehnite, associated with calcareous spar, and native copper. The Indians dig wherever they observe the prehnite lying on the soil, experience having taught them that the largest pieces of copper are found associated with it. We did not observe the vein in its original repository, nor does it appear that the Indians have found it, but judging from the specimens just mentioned, it most probably traverses felspathose trap. We also picked up some fragments of a greenish-grey coloured rock, apparently sandstone, with disseminated variegated copper ore and copper glance; likewise rhomboidal fragments of white calcareous spar, and some rock crystals. The Indians report that they have found copper in every part of this range, which they have examined for thirty or forty miles to the N.W., and that the Esquimaux come hither to search for that metal. We afterwards found some ice-chisels in possession of the latter people twelve or fourteen inches long, and half an inch in diameter, formed of pure copper.

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*Narrative of a Journey to the Shores of the Polar Sea in the years 1819, 20, 21, and 22, by John Franklin. London, 1823. 4to, pp. 340-1.

"To the northward of the Copper Mountains, at the distance of ten miles in a direct line, a similar range of trap hills occurs, having, however, less altitude. The intermediate country is uneven, but not hilly, and consists of a deep sandy soil, which, when cut through by the rivulets, discloses extensive beds of light-brownish red sandstone, which appears to belong to the new red sandstone formation. The same rock having a thin slaty structure, and dipping to the northward, forms perpendicular walls to the river, whose bed lies a hundred and fifty feet below the level of the plain. The eminences in the plain are well clothed with grass, and free from the large loose stones so common on the Barren Grounds, but the ridges of trap are nearly destitute of vegetation.

"Beyond the last-mentioned trap range, which is about twenty miles from the sea, the country becomes still more level, the same kind of sandstone continuing as a subsoil. The plains nourish only a coarse short grass, and the trees which had latterly dwindled to small clumps, growing only on low points on the edge of the river under shelter of the high bank, entirely disappear. A few ranges of trap hills intersect this plain also, but they have much less elevation than those we passed higher up the stream.

"The river in its section of the plain, as far as Bloody Fall, presents alternately cliffs of reddish sandstone, and red-coloured slaty indurated clay or marl, and shelving white clay banks. At Bloody Fall, the stream cuts through a thick bed of dark, purplish-red felspar rock, similar to that observed at the Rocky Defile, and associated, as at that place, with a rock composed principally of light red felspar and quartz, but which is probably a species of red secondary granite. At the Bloody Fall, the felspar rock is covered to the depth of six or seven hundred feet with a bed of greyish white, and rather tenacious clay, which being deeply intersected with ravines, forms steep hills. Nearer the sea, the river is bounded by very steep cliffs of yellowish-white sand; and on the sea-coast, the above mentioned red granite reappears on the west bank of the river, forming a rugged ridge about two hundred and fifty feet high."

In the same year, 1821, Franklin and Richardson found traprocks of the copper-bearing series eastward along the Arctic Coast for nearly two hundred miles, or as far as the east side

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*Narrative of a Journey to the Shores of the Polar Sea in the years 1819, 20, 21, and 22. By John Franklin London, 1823. 4to, pp. 528-30.

of Bathurst Inlet, though no copper or copper-ore seems to have been found in them.

On Franklin's second journey in 1826 Richardson recognized the existence of rocks of similar character at a number of points along the Arctic Coast for 200 miles west of the Coppermine River.

With regard to the character and age of some of these rocks Sir John Richardson says:—*

"The quartz rock beds acquire occasionally a pistachio-green colour, as if from the presence of epidote. A similar stone occurs at Pigeon River on the north shore of Lake Superior; and the limestones and sandstones of the latter district, with their associated trap rocks, as at Thunder Mountain, correspond in most respects with those between Cape Parry and the Coppermine River; and consequently, if we can rely on lithological characters, they may be considered as the oldest members of the Silurian series, or as the rocks on which that series is deposited, to which epoch the Lake Superior formation has been assigned."

From the description quoted above it would appear that the rocks on the Coppermine River are similar to the Copper-bearing rocks on Lake Superior, and that the conditions under which the copper occurs are also similar to them under which it occurs on Keewenaw Point on the south shore of Lake Superior. Speaking broadly, these rocks would appear to indicate a repetition to the north of the great Archean protaxis of the conditions which have prevailed on Lake Superior to the south of it.

Since Franklin and Richardson visited, mapped and described this region, very little attention has been paid to it, though Thomas Simpson and John Rae both crossed the Coppermine River, and make mention of it in their Journals.

The traps and associated rocks may cover a very much larger area than we know of at present, for, in 1903 I found them on the north shore of Doobaunt Lake, and on the Doobaunt River below the Lake. As late as 1902 the late David Hanbury ascended Coppermine River as far as the portage to Great Bear Lake in his journey from Hudson Bay to the Mackenzie River,

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Arctic Searching Expedition, by Sir John Richardson. London, 2 Vols., 1851, Vol. I., p. 283.

and he has mentioned in his book that one of his men named Sandy, while tracking up the river, "was nearly tripped up by a chunk of Native Copper on the shore. It weighed about twelve pounds."*

Though Hanbury gives us little or no information about the copper-bearing rocks in the immediate vicinity of the Coppermine River, he gives us very positive information about those rocks, and the occurrence of the metal in them, in and around Bathurst Inlet and Melville Sound, 175 miles east of the Coppermine River, substantiating Richardson's description of the country, and adding to it evidence of the presence of native copper.

The following is his description of the rocks and the occurrence of copper:

"On the 16th (of June, 1912), we reached Barry Island, which one of my Eskimo had described as the best place for copper. He now said copper was more plentiful on an island six or eight miles north of Fowler Bay. However, two pieces of native copper were found in the evening.

"The next day we searched for copper on the north-west shore of the island.

"The main rock of the island is a fine-grained basalt which Dr. Flett described as granular, holocrystalline, and non-porphyritic, and a good dead decomposed. The rock, although hard, is easily broken in all directions by a tap of the hammer. The summit of the island is, however, formed of a rock of the character of No. 6, which is described as coarse-grained ophitic dolerite with plagioclase and augite, and perhaps a few grains of olivine. The ophitic structure is very perfect.

"The underlying basalt dips west at an angle of about 25 degrees, and it is in this rock that the native copper occurs. The copper is plentiful, for the quantity we obtained was found after but a brief search, and on a neighbouring island, Kun-nu-yuk, a mass of copper had just been found, so large that a man could hardly lift it. There also copper is often found in the tide-way. The whole of the lower levels on Barry Island are covered with debris from the basalt, and where the rock has been disintegrated by weathering, copper has fallen out, so that flakes of the metal may be found along the sea-shore. In many places, too, green patches indicate that nuggets or flakes of copper have recently fallen out from their matrix.

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*Sport and Travel in the Northland of Canada, by David Hanbury, 1904, p. 206.

"The copper-bearing rock also contains crystalline quartz, some of which forms beautiful amethystine veins, of which some specimens were taken.

"This island, Barry Island or Iglor-yu-ullig, is several miles in length, and perhaps three or four miles across. The island to the south-south-east, Kun-nu-yuk, is still larger, besides which there is an island to the south-west which has given much copper, and there are copper-yielding islands to the north. The copper-bearing formation holds good everywhere except on the summit cappings of the islands.

"On the 23rd, on our way across Bathurst Inlet, we approached a flat-topped precipitous island very much resembling a kopje.

"About five miles beyond this limestone island we passed a small basaltic island on which two pieces of copper ore were picked up. It seems as if copper is to be found wherever this basalt occurs.

"With the exception of some precipitously-cut rocks near our camp, this island is formed of the same partly-decomposed basalt as Barry Island. It is described as fine-grained, granular crystalline, decomposed basalt.

"Although we did not find so much copper here, the green marks on the rocks were more numerous, but we did not spend an hour altogether in the search. One of our Eskimo knew of a large mass of copper on the south-west shore of the island, which he stated to be as much as five feet in length, and three inches thick. It protruded from the rocks under the water, it was said, but there was too much ice for us to find the copper. A piece of quartz with copper ore and native copper was picked up on the seashore. Another specimen of the copper-bearing rock here is a decomposed basalt, fine-grained, and not unlike No. 15, but vesicular.

"On the 27th we rested at the north-west point of Lewis Island, where we again found the copper-bearing basalt, and accordingly we commenced a search that resulted in our collecting about 2 lbs. weight of copper. The metal appeared to be very persistent in its occurrence in the partly decomposed basalt of which all the islands we passed that day consisted. The flakes of copper seemed to be always vertical when in their rock matrix. The rocks of this island, where they are not disintegrated, are well smoothed by glacial action, and the striæ [illegible] distinctly trend south and south east.

An important addition to our knowledge of the copper-bearing rocks of the northern coast of America has just been brought to my attention by Dr. James Douglas, of New York, and I am permitted to publish it through the kindness of the Secretary of the American Museum of Natural History. The information is contained in a letter from Mr. V. Stefansson, dated Langton Bay, July 1st, 1911, and addressed to Dr. H. C. [illegible], Director, American Museum of Natural History, New York City. Mr. Stefansson writes as follows:

"The copper that is to be found on the Coppermine River has been generally known for more than a century; we found, however, that the Eskimos near the river, while they pick up some copper on the banks occasionally, depend chiefly on the richer deposits north of Dismal Lake. Neither of these sources is rich in native copper, however, compared with the [illegible] northeast of Prince Albert Sound." (on Victoria Land.)

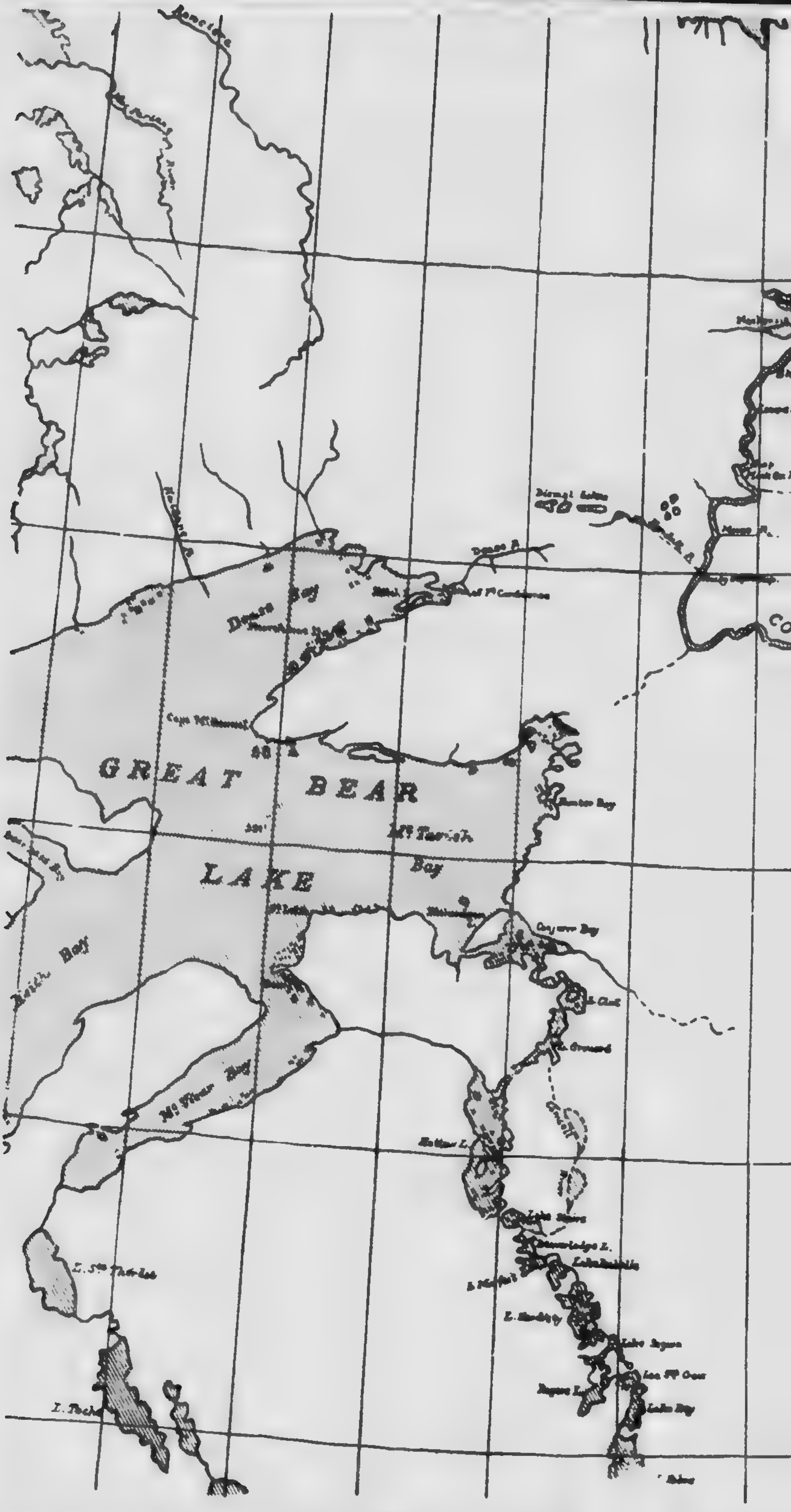
This is the first record of the occurrence of native copper or the copper-bearing rocks on any of the large islands in the Arctic Ocean, and as Prince Albert Sound is probably accessible to ocean-going ships by way of Behring Sea, the locality might be rather easier to explore and mines might be much more

[illegible] p. 261.

readily developed than in the districts on the mainland in the vicinity of the Coppermine River.

Judging from the evidence here presented, the existence of a great copper-bearing area on the Arctic Coast of America near the Coppermine River is certain, and it is also reasonably certain that that area is very much more extensive than the copper-bearing area south of Lake Superior, extending, as it does, from Victoria Land and the hills west of the Coppermine River to the shores of Bathurst Inlet far to the east, but whether native copper will be found anywhere as plentifully distributed or in such rich segregations as on Keewenaw Point, is yet quite uncertain. As the copper-bearing area in Northern Canada is larger it is quite possible that the mineral deposits may be similarly larger, and it is worth while for the Canadian people to find out whether they have in this far northern country a great reserve of copper ore for the use of themselves and the world when the mines that are now being worked shall become depleted. It may seem foolish for us to spend money at the present time to determine the existence of bodies of ore which we cannot use, but copper is one of the most useful metals in the world to-day, and it behooves a nation like an individual to study its ore reserves in order that it may deal with them wisely, and have them developed in such a way that they will bring the greatest benefit to the people. Therefore, I say that we Canadians, knowing that we possess an area of potential wealth in copper in that far northern country, should examine it carefully and find out whether we have a natural asset there that, if intelligently used, will add greatly to the wealth of the nation, or whether we are prepared to hand over that possible asset without knowing whether it is valuable or not, to private individuals who, by the expenditure of a little capital and energy, may make enormous fortunes as a result of our negligence.

EDITOR'S NOTE. When presenting the above paper the author exhibited specimens of native copper which had been brought by Eskimos from the Coppermine River. Some of the implements were the property of his brother, Mr. J. W. Tyrrell, of Hamilton, who obtained them in 1900 on his trip across the Barren Lands from Great Slave Lake to Hudson Bay; while others were obtained by Mr. Alston at Churchill from Eskimos who resorted there to trade.



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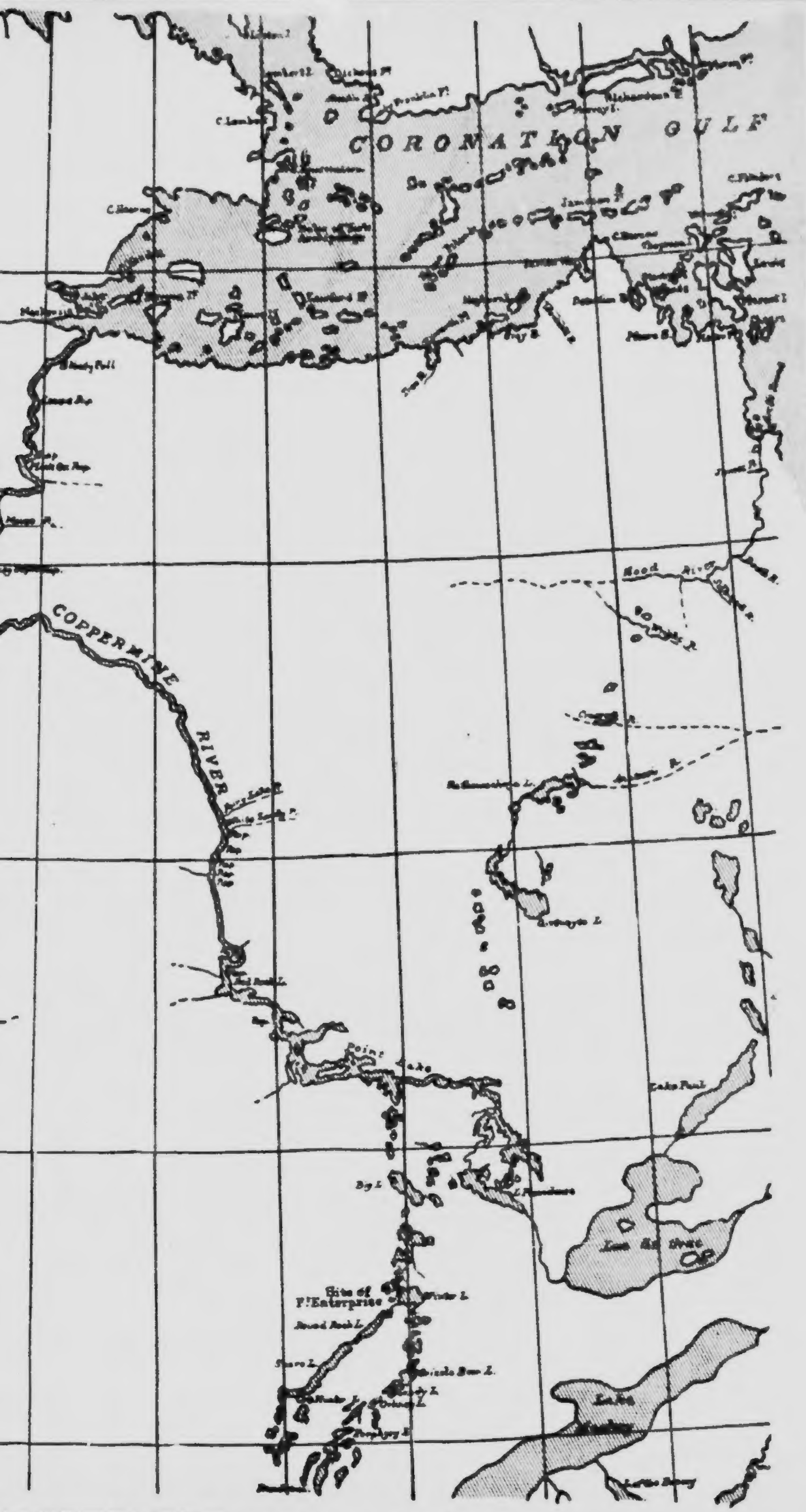
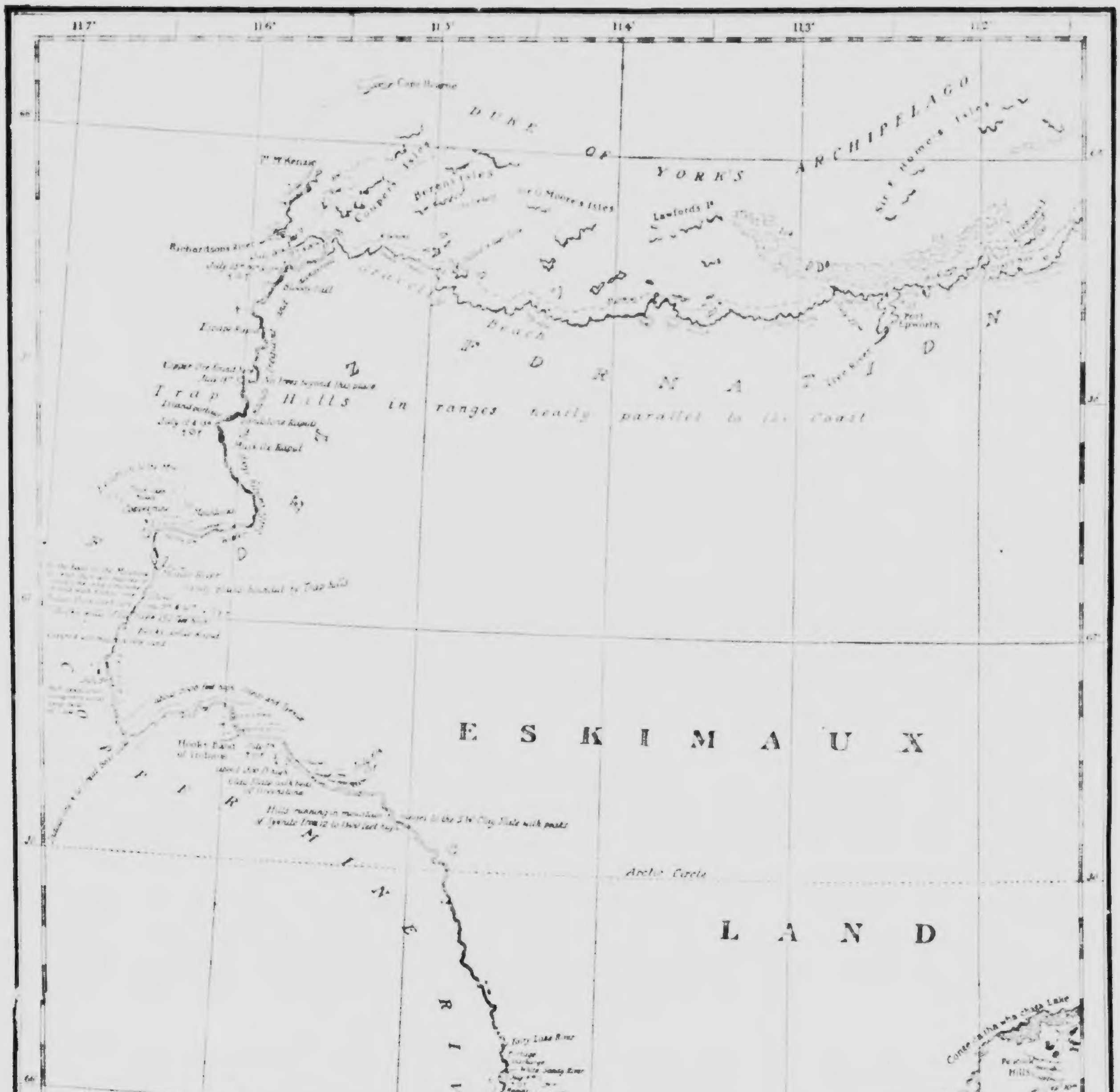


COPPERMINE RIVER DISTRICT



MAP OF COPPERMINE RIVER